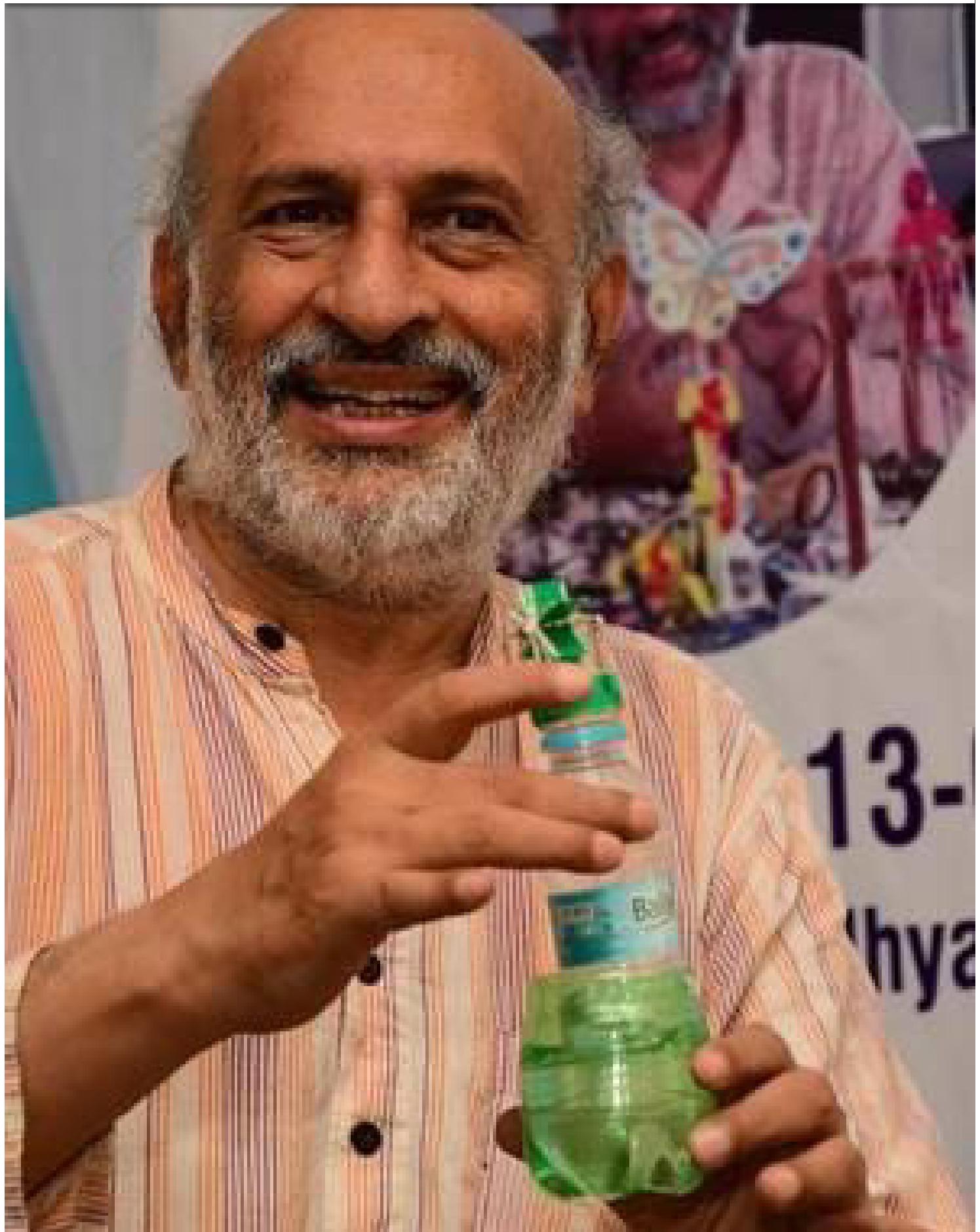
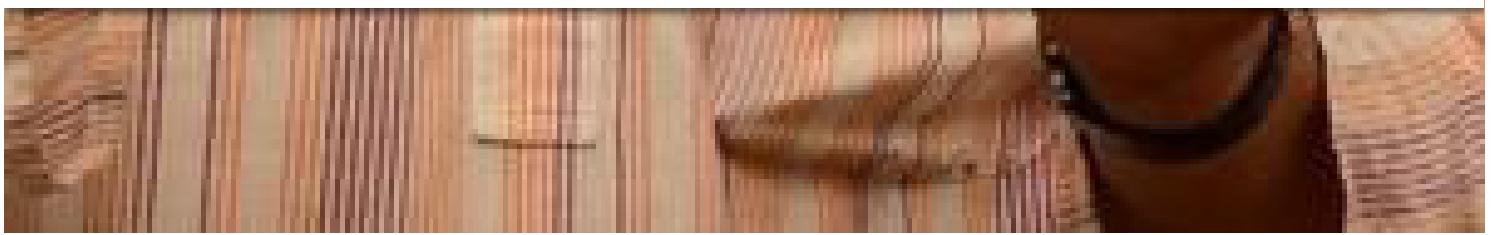


SOCIETY

Arvind Gupta shows how concepts can be taught using everyday objects

THE  HINDU



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Paper, rubber band, safety pin, rubber tube, plastic straws... everyday objects gain new purpose in Gupta's hands.

Brothers K Parthasarathy and K Purushoth are trying to make a paper rabbit. "Fold it this way, *da*," says 16-year-old Parthasarathy. Science innovator Arvind Gupta is demonstrating how to make one to a packed hall, at a State-level toy making workshop organised by the Tamil Nadu Science Forum.

It's the first time for the boys at such an event, and they are taking notes and discussing animatedly. Nearby, R Thangam, a Chemistry teacher from Tirunelveli, is taking pictures of the toys and sketching the models that Gupta is making, in her notepad. "I'm planning to make at least three models a day in class for my students," she says.

K Narasimman, a Physics teacher from Krishnagiri, is running a hand through a toy made of pencil and rubber band. "I learned how to make a simple motor," he says.

"My students will be excited to see it when I make it for them."

The classroom at Kerala Vidyalayam Higher Secondary School is filled with teachers and students armed with pens, papers, and cameras, to take in Gupta's world of fascinating toys made from trash.

Beyond books

Paper, rubber band, safety pin, rubber tube, plastic straws... everyday objects gain new purpose in Gupta's hands. He demonstrates a cardboard woodpecker toy that jiggles down a cycle spoke; folds a length of a used carton into a wallet; shows a carboard man pasted on an stick, who moves his arms up and down when turned... the audience claps as Gupta shows one toy after the other.

"These have been designed by ordinary children," he tells them, showing a turbine modelled by Durga Jetthy, a school girl from Pune. "This is Durga's turbine," he explains.

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~~SCHOOL. But a lover of science, she came up with the simple design using a discarded plastic bottle.~~

‘A small card sheet turbine is mounted on a bottle lid with a hole. The bottom of the bottle is cut. On moving this bottle in a jug of water – air is ejected from the hole and it runs the turbine’: This is how Gupta describes the making of this turbine in his YouTube channel. “Today, Durga is an engineer,” he says. The child’s innovation was written about in a newspaper, which resulted in cheques pouring in, in support of her education.

Those who help themselves

“You are gifted to be teachers,” Gupta tells his audience. “There’s so much you can do using simple objects to make subjects interesting.” The materials he uses cost next to nothing. Cartons, for instance, are “the best material to make toys”, according to him. “In the process you also end up recycling them.” D Themozhichelvi, State vice-president, Tamil Nadu Science Forum (TNSF), says that teachers from 25 States were invited to participate in the workshop.

“In the afternoon, students from our Thulir Illam will take part in it,” she explains. Thulir Illam is a study circle in which children from disadvantaged backgrounds are trained by TNSF volunteers. “We will be demonstrating these models in our upcoming sessions with them,” she says.

“It’s because children don’t understand science that they assume it’s difficult. We hope these toys will change this.”

Try these at home

* Stick two toothbrushes, with the bristles facing each other, using glue. Stick a toothpick in between – the end product should resemble the alphabet A. Place your thumb on the sleeping line and watch the structure rock.



* Stick around 50 straws on a length of sticky tape. Ensure that the tape runs through the centre of the straws. Stick another length of tape to secure the structure. The model is ready. Ask someone to hold one end and turn the other end – waves are generated. Flick one end slightly to generate reflected and refracted waves.

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